

Nantwich Rural District.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

For the Year 1909,

BY

R. T. TURNER, M.D., Ch. B. (Vict.)

Medical Officer of Health.

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Nantwich Rural District.

Medical Officer of Health—R. T. TURNER.
Population at census 1891—23,196.
Estimated population middle of 1909—24,320
Area in acres—98,458.
Birth-rate per 1,000 living—23·5
Death-rate per 1,000 living—13·3.
Death-rate from principal Zymotic Diseases—1·07.
Deaths under one year per 1,000 births—89.

AREA AND POPULATION.—The District is situated in the south-east of Cheshire, and adjoins in the south the county of Salop and in the east the county of Stafford. It is part of the alluvial plain of Cheshire and surrounds the Borough of Crewe and the Urban District of Nantwich, both of which districts are situated near its centre. The occupation of the vast majority of its residents is dairy farming. In that part of the District contiguous to the Borough of Crewe and the Urban District of Nantwich of late years there has grown up a considerable population of a non-agricultural character, which population chiefly consists of railway employes and of tradespeople and their employes whose daily occupation is chiefly found in the towns of Nantwich and Crewe. The wives and daughters of the poorer members of this class are to a slight extent employed as workers in the clothing factories of Nantwich, Crewe, and Willaston, and a considerable number of them are employed as out-workers in this class of business. Of the four registration sub-districts into which the District has been divided, the Crewe sub-district contains practically all the industrial population, though even in this sub-district the preponderant element of the population is agricultural, whilst the sub-districts of Nantwich, Bunbury, and Wrenbury are practically exclusively agricultural in character. Agriculture in this Rural District may be considered to be fairly prosperous considering the state of the country generally from an agricultural point of view, and the wages of agricultural labourers are probably above the average of agricultural England as a whole.

The District is largely drained by the River Weaver, which is a tributary of the Mersey, and which receives tributary streams from the counties of Stafford and Salop.

The London & North Western, the Great Western, and the North Staffordshire Railways run through the District, as also does the Shropshire Union Canal. A number of the employes of this Canal Company form a colony at a hamlet called Barbridge, situated in the townships of Stoke and Wardle.

The Rural District has been divided into the following registration sub-districts:—

- 1.—CREWE, having an area of 31,145 acres and an estimated population of 12,108. It includes Batherton, Barthomley, Basford, Blakenhall, Bridgemere, Checkley-cum-Wrinehill, Chorlton, Crewe, Doddington, Haslington, Hatherton, Hough, Hunsterson, Lea, Rope, Stapeley, Walgherton, Warmingham, Weston, Willaston, and Wybunbury, and parts of Church Coppenhall, Shavington-cum-Gresty, and Wistaston.
- 2.—NANTWICH, with an area of 21,300 acres and an estimated population of 3,468, includes Acton, Aston-juxta-Mondrum, Austerson, Baddington, Brindley, Burland, Cholmondeston, Coole Pilate, Edleston, Faddiley, Henhull, Hurleston, Leighton, Minshull Vernon, Poole, Stoke, Woolstanwood, and Worleston.

3.—BUNBURY has an area of 20,979 acres and an estimated population of 4,122. It comprises the townships of Alpraham, Bickerton, Bulkeley, Bunbury, Calveley, Cholmondeley, Church Minshull, Egerton, Haughton, Peckforton, Ridley, Spurstow, Wardle, and Wettenhall.

4.—WRENBURY, which has an area of 25,034 acres and an estimated population of 4,622. It includes Audlem, Baddiley, Broomhall, Buerton, Chorley, Dodcott-cum-Wilkesley, Hankelow, Newhall, Sound, Woodcott, and Wrenbury-cum-Frith.

The Census returns for the Rural District were as follows:—

	Males		Females		Totals
Crewe	5,478	...	5,506	...	10,984
Nantwich	1,763	...	1,705	...	3,468
Bunbury	2,052	...	2,070	...	4,122
Wrenbury	2,278	...	2,344	...	4,622
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	11,571	...	11,625	...	23,196
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BIRTH-RATES. The birth-rates for the four sub-districts were respectively 26·0, 24·2, 20·1, and 21·5.

The birth-rate for the whole District was 23·5 which is lower than the average of the last ten years and lower than that of any single year of which I have record.

There is a remarkable decline in the birth-rate of each sub-district.

The illegitimate births numbered 51, an increase of eleven over last year. It is clear therefore that the remarkable decline in the total birth-rate is a decline in the fertility of married people.

DEATH-RATES. The death-rates for the four sub-districts were respectively 13·8, 15·2, 9·4, and 14·0.

The death-rate for the whole District was 1·5 higher than in 1908, and was higher than the average of the preceding ten years.

Infantile Mortality. Fifty-two of the deaths registered were those of children under one year of age. The numbers for the preceding ten years were 68, 56, 54, 56, 53, 59, 52, 67, 38, and 36.

The deaths of infants under one year of age were in the proportion of 89 to each 1,000 births registered.

The notification of Births' Act is not in force in the District; nor have we at present the machinery in the District for making proper use of the information it would supply.

The inspection of "nursed-out infants" by the female Inspector under the Children Act is doing good in this District in which a considerable number of children (especially illegitimate ones) are put out to nurse.

Deaths from Zymotic Disease.

(a) MEASLES.—One death occurred during the year as the result of this disease.

(b) SCARLET FEVER.—This disease caused two deaths during the year. Both of these occurred in the Isolation Hospital. The first occurred on August 5th and was that of a child aged 2 years, admitted from Willaston. The other was that of a child aged 6 years, from Church Coppenhall, who died on December 2nd.

(c) WHOOPING COUGH.—This disease caused the deaths of three young children all of whom were under five years of age. The deaths occurred in the Nantwich, Bunbury, and Wrenbury sub-districts.

- (d) **DIPHTHERIA.**—This disease caused three deaths, viz :—that of a child aged 8 years at Wottenhall on February 20th ; that of a child aged 4 years at the Isolation Hospital on June 10th, the child having been admitted the day before its death from Worleston ; and that of a child aged 7 years at Calveley on December 29th.
- (e) **DIARRHŒA.**—This disease caused the deaths of two children and two old people, two occurring in the Crewe and two in the Bunbury sub-district.
- (f) **PUERPERAL FEVER.**—One death occurred from this disease.—It was that of a woman aged 41 years who died on September 10th, at Spurstow.
- (g) **ERYSIPELAS.**—One death in the Crewe sub-district was ascribed to this disease.
- (h) **INFLUENZA.**—No less than eleven deaths were certified as resulting from this disease and its sequelæ. By this disease a very important percentage ($3\frac{1}{2}\%$) of the total mortality of the District was caused. It is hard to devise a scheme for mitigating the incidence of the complaint but its importance as a cause of death cannot be neglected.

Cancer. This group of diseases caused the deaths of eighteen persons during the year. It will be seen that 5·3 per cent. of the total deaths at all ages resulted from cancer and 7·5 per cent. of the deaths of persons over twenty-five years of age.

Phthisis. This disease caused the deaths of 17 persons during the year. This is equivalent to a death-rate of 0·6 per 1,000 living.

The rates for the preceding nine years were 0·75, 0·6, 0·38, 0·3, 0·6, 0·8, 0·7, 0·3, and 0·5.

To the notifications under the Tuberculosis Order of the Local Government Board I shall refer at a later period in this Report.

Other Tubercular Diseases. Eight deaths were ascribed to tubercular disease other than pulmonary phthisis. The number for 1908 was two.

Heart Diseases. Thirty-seven deaths were ascribed to this group of diseases. This is equal to a death-rate of 1·5 per 1,000 living.

Inquests. During the year twenty-six inquests were held with regard to the deaths of residents of the Rural District. The following is a classification of the verdicts :—

Apoplexy and Cerebral Hæmorrhage	...	2 cases
Heart Diseases	... ..	8 „
Epilepsy	... ..	1 „
Killed by a Wagon	... ..	1 „
Killed by a Train	... ..	2 „
Circular Saw Accident	... ..	1 „
Falls	... ..	2 „
Suffocated	... ..	2 „
Drowned	... ..	2 „
Delirium Tremens	... ..	1 „
Bronchitis	... ..	1 „
Burns	... ..	1 „
Cut Throat	... ..	1 „
Tubercular Disease of Spine	... ..	1 „
Total...		— ... 26 cases —

Uncertified Death. One uncertified death was registered during the year. The cause of death was returned as Cerebral Hæmorrhage.

Sickness. During the year 165 cases of infectious disease were notified to the Medical Officer of Health. They were as follows:—

Scarlet Fever	...	...	...	...	...	109 cases
Diphtheria	...	...	...	...	...	48 „
Puerperal Fever	...	...	...	...	...	1 „
Enteric Fever	...	...	...	...	...	3 „
Erysipelas	...	...	...	...	...	4 „
Total	...	...	...	...	...	165 cases

The following Table shows at a glance the state of the District as to notifiable Infectious Disease during the past ten years.

NOTIFICATIONS AND DEATHS FROM NOTIFIABLE DISEASES during the years 1900—1909.

YEAR.	CASES NOTIFIED.								DEATHS.							
	Smallpox	Scarlet Fever	Diphtheria	Membranous Group	Enteric Fever	Puerperal Fever	Erysipelas	Total Annual Notifications	Smallpox	Scarlet Fever	Diphtheria	Membranous Group	Enteric Fever	Puerperal Fever	Erysipelas	Total Deaths
1900.....	...	164	9	3	9	1	15	201	...	5	2	1	2	...	...	10
1901.....	...	79	30	1	7	5	6	128	...	1	8	1	2	2	...	14
1902.....	2	20	73	...	4	2	9	110	...	...	13	...	1	...	...	14
1903.....	2	33	24	1	4	...	10	74	...	...	5	1	2	...	...	8
1904.....	1	79	5	...	4	3	18	110	...	...	...	...	1	1	2	4
1905.....	...	123	14	2	3	2	11	155	...	1	4	...	...	1	...	6
1906.....	...	39	41	...	7	1	13	101	...	1	3	...	2	1	...	7
1907.....	...	149	42	...	1	...	18	211	...	4	2	...	...	...	1	7
1908.....	...	109	22	...	...	2	8	141	...	2	3	...	...	1	1	7
1909.....	...	109	48	...	3	1	4	165	...	2	3	...	...	1	1	7

(a) SCARLET FEVER.—The Table which follows shows at a glance the incidence of this disease on the various Townships during the year under review.

The cases tabulated therein call for but little special mention, with the exception of the cases which occurred in the Townships of Willaston and Warmingham. The Willaston cases occurred in February, among the boarders at the Willaston College. It is difficult to account for them; but it appears to me to be probable that some pupil or member of the staff had brought back the infection after the Christmas vacation.

With the consent and co-operation of the Medical Officer of the School I examined every pupil and every member of the teaching and domestic staff, but could find no sign of infection. I could not find any reason to believe that the milk supply was implicated.

The Warmingham cases were part of an outbreak which was at the time existing in the contiguous portion of the Congleton Rural District. The Warmingham School was closed for a few weeks on account of this outbreak.

SCARLET FEVER NOTIFICATIONS, 1909.

	Jan.	Feb.	Mch.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
Acton	1	...	...	2	1	...	...	...	...	...	4
Alpraham	1	1	...	...	...	...	...	...	...	...	...	2
Bunbury	2	1	1	...	...	..	1	...	...	...	...	...	5
Burland	1	...	...	...	1	...	...	1	1	...	...	4
Blakenhall	1	3	...	...	...	...	...	...	...	...	...	4
Bickerton	1	...	...	...	...	...	1
Barthomley	1	...	...	...	...	...	...	1
Church Minshull...	1	...	...	...	...	...	...	...	...	...	1	1	3
Church Coppenhall	2	...	...	...	...	...	...	...	2	...	4
Chorley	4	...	1	...	...	...	...	5
Edleston	1	...	...	...	...	1	...	...	...	2
Faddiley	1	...	1	2	1	...	...	...	...	...	5
Haslington	1	1	...	1	1	2	2	...	...	...	9
Hatherton	1	1
Henhull	1	...	1
Minshull Vernon	1	...	...	1
Leighton	1	...	...	1
Poole	1	...	...	...	...	1
Shavington	1	...	4	...	...	1	...	...	...	6
Stapeley	1	...	...	1	...	...	2
Willaston	1	6	...	4	3	2	5	2	4	...	2	2	31
Wistaston	2	...	...	...	2
Wettenhall	4	1	...	...	...	...	...	...	...	...	...	5
Warmingham	8	...	1	...	...	...	...	9
TOTALS	4	14	12	7	4	25	11	7	11	4	6	4	109

(b) DIPHTHERIA.—I have prepared a Table giving the number of cases occurring in each Township and the months of their occurrence.

It will be seen from this Table that forty-eight cases of the disease were reported.

The majority of the cases were sporadic in character and call for little comment. In two instances the outbreaks were of considerable interest.

The first was a small outbreak which occurred in January in two farm houses situated at Poole and Cholmondeston. In these cases I am practically certain that the children were infected at a Christmas party.

The second was an outbreak which occurred in August in the township of Dodcott. On the night of August 24th I was informed by telephone of the outbreak of two cases of Diphtheria in one house and one case in each of two other houses in the township. I enquired from my informant, who was the father of one of the affected persons, as to any possible connection between the cases and was only able to find one thing in common—the milk supply, which was in each case derived from the same farm. On August 25th I visited the cases and my suspicions of the milk supply became even stronger. I visited the farm and found that a little boy, who was visiting there, was suffering with sore-throat, which on examination was very suspicious of a recovering case of diphtheria. I also examined the throat of the farm manager whose duty it was to put up the milk for the customers. In his case I found slight evidence also of sore-throat. Specimens were at once taken from their throats and sent to Manchester for examination. In the meantime I arranged for the isolation of the two suspected persons, and for

the discontinuance of the sale of milk from the farm. As soon as the reports of the bacteriological examination (which showed that the cases were true diphtheria) were received I arranged for the removal of the little boy and the farm manager to the Isolation Hospital. On August 28th I received notifications of two fresh cases, one in one of the originally infected houses, and another in a fresh house, whose milk supply had been derived from the same source. This made four houses infected with diphtheria. As one of the last two cases was in the household of the National Schoolmaster, it became necessary to close the school for a short time. No further cases occurred after August 28th in the Township until January of this year, when another case was reported, to which case I shall refer later.

My reasons for suspecting the milk supply were (1) the absence of any other connection between the cases, and (2) the fact that of five households supplied by the one farm four were within a few days invaded by diphtheria.

My suspicions were fully confirmed by my examination of the throats at the farm and by the bacteriological examination.

It is noteworthy that the case to which I have referred above as occurring in January, 1910, arose in the person of a young man who had come home for his Christmas holidays and that this was the remaining one of the five households which had been supplied with the infected milk. I conceive it to be possible that the bacillus of diphtheria had been introduced into the household in August, and, though it had caused no apparent illness, that it may have lain dormant in the throat of one or other members of the household and that thus the fresh case originated. It may, of course, have resided in infected clothing or furniture, though I have no proof either of this or of the preceding hypothesis.

DIPHTHERIA NOTIFICATIONS, 1909.

	Jan.	Feb.	Mar.	Apr.	May	June	Aug.	Sep.	Oct.	Nov.	Dec.	Totals.
Acton .....	...	...	...	...	...	...	1	...	...	...	...	1
Buerton.....	...	...	...	...	...	...	...	...	...	...	1	1
Cholmondeston	2	...	...	...	...	...	...	...	...	...	...	2
Church Minshull ...	...	1	...	...	...	...	...	...	...	...	...	1
Calveley .....	...	...	...	...	1	...	...	...	...	...	1	2
Crewe .....	...	...	...	...	1	...	...	...	...	...	...	1
Chorley .....	...	...	...	...	...	...	1	...	...	...	...	1
Church Coppenhall.	...	...	...	...	...	...	...	...	...	1	...	1
Dodcott.....	...	...	...	...	...	...	8	...	...	...	...	8
Haughton .....	...	...	...	...	...	...	...	2	...	1	...	3
Haslington	1	...	...	...	...	...	...	...	...	...	...	1
Minshull Vernon ...	...	...	...	...	...	...	...	...	1	...	...	1
Poole	1	...	...	...	...	...	...	...	...	...	...	1
Peckforton	1	...	...	...	...	...	...	...	...	...	...	1
Stoke.....	3	1	...	...	...	...	...	...	...	...	...	4
Spurstow .....	...	...	...	...	...	...	3	1	...	...	...	4
Willaston	1	1	1	1	...	...	1	...	2	...	...	7
Wettenhall .....	...	1	1	1	...	...	...	...	...	...	...	3
Warmingham .....	...	...	...	...	...	1	...	...	...	...	...	1
Worleston .....	...	...	...	...	...	2	...	...	...	...	...	2
Wrinehill .....	...	...	...	...	...	...	...	...	...	1	...	1
Wrenbury.....	...	...	...	...	...	...	...	...	...	...	1	1
Totals.....	9	4	2	2	2	3	14	3	3	3	3	48

(c) **PUERPERAL FEVER.**—One case of this disease was reported. It was that of a woman aged 41 years, living at Spurstow. She was attended in her confinement by a midwife and on the third day after delivery began to be ill and was then attended by a medical practitioner. She died on September 10th. Immediately the case was reported it was visited. The house was found to be in a very dirty condition internally and the premises externally were far from sanitary. I requested the midwife to abstain from practice until she had finished attending on this case and had undergone a thorough disinfection.

As soon as the body of the woman was interred I had the premises thoroughly cleansed and disinfected and the bed on which she had lain destroyed. The midwife abstained at my request from practice for fourteen days and her person and garments were carefully disinfected. No other case of disease in lying-in women resulted from this case.

(d) **ENTERIC FEVER.**—Three cases of this disease were notified, viz:—a woman aged 26 years at Shavington on May 27th, a child aged 8 years at Shavington on July 3rd, and a boy aged 14 years at the Workhouse Infirmary on December 20th. Of these only one case, viz:—that of the child from Shavington, was treated at the Isolation Hospital. The cases at Shavington were difficult to explain. The case at the Workhouse Infirmary was clearly infected in Crewe, whence he was admitted suffering from the disease.

(e) **ERYSIPELAS.**—The four cases of this disease call for no special comment. They occurred at Edleston, Spurstow, Wybunbury, and Gresty.

Notification of Pulmonary Tuberculosis. Seventeen notifications of cases of phthisis occurring in persons in receipt of parish relief were received during the year. Of these thirteen were received from the Medical Officer of the Union Workhouse, two from District Medical Officers, and two from Relieving Officers of other Unions.

The cases notified have been visited, instructions as to precautions given, and in one case (where a death occurred in a private house) careful disinfection was carried out.

The cases at the Workhouse are all treated apart from persons not suffering from the disease.

I consider that the Order of the Local Government Board which calls for the notification of these cases is a great advance in the fight against consumption.

I hope that soon the disease may be made notifiable in every case whether the sufferer be a pauper or not. Voluntary notification is of very little use because it throws too great an onus upon the certifying practitioner, whose patients in many cases would resent notification unless it was a statutory duty thrown upon their doctor.

Isolation. During the year 72 cases belonging to the Rural District were admitted to the Isolation Hospital. They were as follows:—

Scarlet Fever.....	54 cases
Diphtheria	17 „
Enteric Fever.....	1 case
	—
Total.....	72 cases
	—

The Isolation Hospital has been of very great advantage to the District since it was opened and has in my opinion well repayed the money spent upon it.

Disinfection. Articles of bedding and unwashable clothing are now always disinfected at the Isolation Hospital. I have never had the slightest difficulty in having them handed over for disinfection.

Rooms are disinfected by the Inspector, formic aldehyde being the disinfectant chiefly used, followed in all cases by washing of all surfaces by a solution of a liquid disinfectant.

School Closure. In a few cases schools were closed during the earlier part of the year with the consent of the Managers on account of infectious outbreaks. After the issue of the new Education Code and the Circular of the Local Government Board as to school closure considerable difficulty arose owing to the fact that it was rendered illegal for Managers to close their schools voluntarily on the advice of the Medical Officer of Health as had been the practice in this District for many years. The duty of arranging for closure is now thrown on the School Medical Officer, who is the County Medical Officer of Health. As he cannot possibly be in intimate touch with the whole of the Schools of the County, to me it seems wrong to make him the responsible person. I think that the power of advising closure should have been left in the hands of the District Medical Officer as before; but that he should be compelled to notify at once his action to the School Medical Officer. I consider that the present system, though admirably suited to the working of a large town, is quite unsuitable for the working of a County. I am afraid that the Cheshire Education Authority must have lost considerable sums in grants owing to the delays necessitated by the new system.

Inspection of the District. I have been in every Township of the District during the year in the execution of my duty and have made careful systematic inspections of the townships of Audlem, Hankelow, Buerton, and Newhall.

Rivers Pollution. There is no improvement in the condition of the streams of the District.

Drainage. I have no progress to report in this important matter. The condition of Haslington, Crewe, Willaston, Broad Lane, and portions of Shavington is very bad indeed and urgently calls for improvement. I have called attention to these places in all my previous reports and hope that the difficulties and delays will soon come to an end.

Water Supply. The water supply of Chorley is now completed and a new scheme for the supply of Brindley, Burland, and Faddiley is before the Local Government Board.

I only wish that the Rural District Council had been as zealous for sewerage as it has been for water supply.

In the month of May I presented a special report upon the need for the improvement of the water supply of Audlem and the townships which surround it. I hope that some good may come of it.

Slaughter Houses. These have been carefully supervised during the year.

Diseased Meat. No seizures have been made during the year but a large number of carcasses have been examined by myself and the Inspector at the request of owners thereof.

Four carcasses of tuberculous animals were totally destroyed as was one carcass much affected with "Quarter Evil." In three tuberculosis cases I destroyed portions of carcasses with the consent of the owner.

Factories and Workshops. These places have had careful supervision. One bake-house has been thoroughly overhauled and put into a sanitary condition.

Housing of the Working Classes. A few new cottages have been built during the year; but there is still plenty of room for more good cottages in the purely agricultural parts of the District.

Anthrax. Fewer cases than usual have been reported. There has been no case of human infection.

Dairies and Cowsheds. This work has had careful attention.

Refuse Removal. This work is undertaken by the District Council through contractors in Audlem, Church Coppenhall, Haslington, Shavington, Willaston, and part of Wistaston. The scavenging of Shavington has not been satisfactorily performed during at least some parts of the year.

Hospital Accommodation. The Hospital accommodation of the District consists of the following Institutions:—the Nantwich Union Workhouse Infirmary, Worleston; the Nantwich Joint Isolation Hospital, Worleston; and the Nantwich Joint Small-pox Hospital, Ravensmoor.

A new Cottage Hospital is being erected in Nantwich and its beds will be available for residents of the Rural District.

I append the statistical tables required by the Local Government Board and also the reports of the Surveyor and of the Inspector of Nuisances.

The work of the District continues to increase in amount and calls for the expenditure of a great deal more time and trouble than it did in years past.

R. T. TURNER, M.D.,

MEDICAL OFFICER OF HEALTH.

Nantwich,

February 14th, 1910.

TABLE 1.—NANTWICH RURAL DISTRICT COUNCIL. FOR WHOLE DISTRICT.

YEAR.	Population estimated to middle of each Year.	Births.		Total Deaths regis'd in the District				Total deaths in Public Institutions in the District	Deaths of Non-resid'ts regis't'd in Public Institutions in the District	Deaths of resid'ts regis't'd in public Institutions beyond the District	Nett Deaths at all ages belonging to the District	
		Number	Rate*	Under one Year		At all ages.					Number	Rate*
				Number	Rate per 1,000 Births regis't'd	Number	Rate*					
1899	23777	609	25·6	68	112	...	...	...	...	...	355	14·2
1900	23777	597	25·1	56	94	...	...	...	...	..	361	15·5
1901	23200	608	26·2	54	88	...	...	..	...	...	295	12·7
1902	23230	611	26·3	56	91	356	15·3	35	27	9	338	14·1
1903	23268	604	25·9	53	87	291	12·5	30	26	5	270	11·6
1904	23304	651	27·9	59	90	304	13·0	25	21	11	294	12·6
1905	23376	589	25·1	52	88	303	12·9	17	26	8	285	12·1
1906	23612	645	27·3	67	103	385	16·3	62	47	0	336	14·2
1907	23848	573	24·0	38	66	301	12·6	43	29	1	273	11·4
1908	24084	621	25·7	36	57	306	12·2	59	39	0	286	11·8
Averages for years 1899—1908	23547	610	25·9	54	87	320	12·1	38	30	5	309	13·0
1909	24320	583	23·5	52	89	377	15·5	56	42	0	335	13·3

* Rates in Columns 4, 8, and 13, calculated per 1,000 of estimated population.

Area of District in acres (exclusive of area covered by water), 98,458

Total population at all ages 23,196
 Number of inhabited houses 4,964 } At Census of 1901.
 Average number of persons per house 4.9

TABLE II.—NANTWICH RURAL DISTRICT SUB DISTRICTS.

NAMES OF LOCALITIES.	1 CREWE				2 NANTWICH				3 BUNBURY				4 WRENBURY			
YEAR	Population estimated to middle of each year	Births registered.	Deaths at all Ages	Deaths under 1 year	Population estimated to middle of each year	Births registered	Deaths at all Ages	Deaths under 1 year	Population estimated to middle of each year	Births registered	Deaths at all Ages	Deaths under 1 year	Population estimated to middle of each year	Births registered	Deaths at all Ages	Deaths under 1 year
1899	11547	308	163	40	3538	87	78	14	3105	99	49	6	5597	115	65	8
1900	11547	313	173	22	3538	79	58	12	3105	90	61	9	5597	115	77	13
1901	10984	312	130	25	3468	83	45	8	4059	94	53	12	4643	122	54	9
1902	11028	303	171	28	3468	82	52	13	4122	101	50	8	4622	125	65	7
1903	11056	320	120	30	3468	82	56	7	4122	81	39	6	4622	121	55	10
1904	11092	325	144	37	3468	84	51	15	4122	99	46	5	4622	143	53	2
1905	11164	307	144	30	3468	76	35	6	4122	85	49	7	4622	121	57	9
1906	11400	338	164	34	3468	90	51	4	4122	103	56	12	4622	114	65	13
1907	11636	282	115	16	3468	89	63	7	4122	85	41	6	4622	117	54	9
1908	11872	324	147	26	3468	103	51	3	4122	90	41	4	4622	104	47	3
Averages of years 1899—1908	11232	313	147	29	3482	85	54	9	3912	92	48	7	4809	119	59	7
1909	12108	316	168	29	3468	84	53	8	4122	83	39	5	4622	100	75	10

TABLE III.—NANTWICH RURAL DISTRICT. CASES OF INFECTIOUS DISEASE NOTIFIED IN 1909.

NOTIFIABLE DISEASE	Cases Notified in Whole District.							Total cases notified in each locality.				No of Cases removed to Hospital from each locality				Total cases removed to Hospital
	At all Ages	AT AGES—YEARS														
		Under 1	1 to 5	5 to 15	15 to 25	25 to 65	65 and upwards	Crewe	Nantwich	Bunbury	Wrenbury	Crewe	Nantwich	Bunbury	Wrenbury	
Diphtheria	48	...	6	22	8	12	...	14	10	13	11	4	1	8	4	17
(including Membranous croup)																
Erpsipelas	4	...	...	1	...	1	2	2	1	1	...	...	...	...	...	...
Scarlet Fever	109	1	17	79	10	2	...	72	9	23	5	36	15	3	...	54
Enteric Fever.....	3	...	...	2	...	1	...	2	1	...	...	1	...	...	...	1
Puerperal Fever...	1	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...
TOTALS.....	165	1	23	104	18	17	2	90	21	38	16	41	16	11	4	72

Isolation Hospital—Nantwich Joint Hospital Board's Hospital, Worleston.
Total available beds—20. Number of diseases that can be concurrently treated—3.

TABLE IV.—CAUSES OF, AND AGES AT, DEATH DURING YEAR 1909.

CAUSES OF DEATH.	Deaths in or belonging to whole District, at subjoined ages.							Deaths in or belonging to localities (AT ALL AGES)				Total Deaths in Public Institutions in the District
	All Ages	Under 1 Year	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and up-wards	Crewe	Nantwich	Bunbury	Wrenbury	
Measles	1	1	...	...	...	...	...	1	...	...	...	...
Scarlet Fever	2	...	1	1	...	...	...	2	...	...	...	1
Whooping-cough	3	1	2	...	...	...	...	...	1	1	1	...
Diphtheria and Membranous Croup	3	...	1	2	...	...	...	...	1	2	...	2
Epidemic Influenza	11	...	...	1	...	2	8	2	...	...	9	...
Diarrhoea	4	...	1	1	...	1	1	2	...	...	2	2
Puerperal Fever	1	...	...	...	...	1	...	...	...	1	...	...
Erysipelas	1	...	...	...	...	...	1	1	...	...	...	...
Phthisis, Pulmonary Tuberculosis	17	...	...	...	4	13	...	8	4	...	5	7
Other tuberculous diseases	8	1	4	2	1	...	...	4	1	...	3	3
Cancer, malignant disease	18	...	...	...	...	9	9	12	3	2	1	2
Bronchitis	31	7	1	...	...	5	18	13	8	2	8	6
Pneumonia	24	2	3	1	...	5	13	13	2	2	7	5
Pleurisy	2	...	...	...	...	1	1	...	1	...	1	2
Other diseases of Respiratory organs	1	...	...	...	...	...	1	...	1	...	...	...
Alcoholism, Cirrhosis of liver	5	...	...	...	...	4	1	4	...	...	1	1
Venereal diseases	2	2	...	...	...	...	...	1	1	...	...	...
Premature Birth	5	5	...	...	...	...	...	4	...	1	...	...
Diseases and accidents of parturition	2	...	...	...	...	2	...	1	...	1	...	...
Heart diseases	37	...	...	...	1	16	20	19	6	9	3	10
Accidents	12	2	2	...	...	6	2	9	...	1	2	...
Suicides	2	...	...	...	...	2	...	2	...	...	...	...
All other causes	143	31	4	2	8	20	78	70	24	17	32	15
ALL CAUSES	335	52	19	10	14	87	153	168	53	39	75	56

The Institutions taken into account for the purpose of these Tables are the Nantwich Union Infirmary, and the Nantwich Joint Hospital Board's Isolation Hospital, Worleston.

The Union Workhouse is outside the District, but the Workhouse Infirmary is entirely within the District.

TABLE V.—NANTWICH RURAL DISTRICT—FOR WHOLE DISTRICT.
INFANTILE MORTALITY DURING THE YEAR 1909.

DEATHS FROM STATED CAUSES IN WEEKS AND MONTHS UNDER ONE YEAR OF AGE.

	Under 1 week	1-2 weeks	2-3 weeks	3-4 weeks	Total under 1 Month	1-2 Months	2-3 Months	3-4 Months	4-5 Months	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10-11 Months	11-12 Months	Total Deaths under One Year.
All Causes, Certified	12	5	4	3	24	5	7	2	4	1	2	3		2	1	1	52
Measles .....	...	...	...	...	...	..	..	..	..	..	1	..	..	..	..	..	1
Whooping Cough .....	...	...	...	...	...	..	1	..	..	..	..	..	..	..	..	..	1
Diarrhoea, all forms .....	...	...	...	...	...	..	..	..	..	1	..	..	..	..	..	..	1
Premature Birth.....	4	...	...	...	4	...	..	..	..	..	..	..	..	..	..	..	1
Congenital Defects.....	...	...	...	2	2	...	..	..	..	..	..	..	..	..	..	..	4
Atrophy, Debility, Marasmus	3	3	2	...	8	3	3	..	..	..	..	..	..	..	..	..	2
Tuberculous Peritonitis, Tabes Mesenterica	...	...	...	...	...	..	..	..	..	..	..	..	..	1	..	..	14
Syphilis .....	...	...	...	...	...	1	..	..	..	..	..	1	..	..	..	..	2
Meningitis (not Tuberculous) .....	...	...	...	...	...	..	..	..	..	..	..	1	..	..	..	..	2
Convulsions.....	1	2	1	1	5	...	1	..	1	..	..	..	..	..	..	..	1
Bronchitis .....	...	...	1	...	1	..	2	2	1	..	..	..	..	1	..	..	7
Pneumonia .....	...	...	..	...	...	1	..	..	1	..	..	..	..	..	..	..	7
Suffocation, overlying	1	..	...	...	1	..	..	..	1	..	..	..	..	..	..	..	2
Other Causes	3	...	...	...	3	...	..	..	1	..	1	1	..	..	1	..	1
	12	5	4	3	24	5	7	2	4	1	2	3	...	2	1	1	52

Population estimated to middle of 1909—24,320.

Births in the year } legitimate 532.
 } illegitimate 51.

Deaths in the year of } legitimate infants 48.
 } illegitimate infants 4.

Deaths from all causes at all ages 335.

NANTWICH RURAL DISTRICT.

Factories, Workshops, Laundries, Workplaces, and Homework**1—INSPECTION.**

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTOR OR INSPECTOR OF NUISANCES.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
Factories (Including Factory Laundries.)	46	...	...
Workshops..... (Including Workshop Laundries.)	180	3	...
TOTAL.....	226	3	...

2—DEFECTS FOUND.

PARTICULARS.	Number of Defects.			Number of Prosec't'ns
	Found.	Remedied.	Referred to H.M. Inspector.	
<i>Nuisances under the Public Health Acts :—</i>				
Want of Cleanliness	3	3	...	...
Sanitary accommodation } unsuitable or defective	3	3	...	...
} not separate for sexes	...	...	...	...
Breach of special sanitary requirements for bakehouses	1	1	...	...
TOTAL.....	7	7	...	...

3—HOME WORK.

NATURE OF WORK.	Outworkers' Lists, Section 107.				Number of Inspections of Outworkers' Premises.
	Lists received from Employers—twice in the year.	Numbers of Addresses of Outworkers received from other Councils.	Numbers of Addresses of Outworkers forwarded to other Councils	Notices served on Occupiers as to keeping or sending Lists	
	Lists.				
Wearing Apparel— making, etc.	16	86	15	2	490

4.—REGISTERED WORKSHOPS.

Workshops on Register (sec.131) at the end of Year	Number
Workshops	34
Bakehouses	14
Total number of Workshops on Register	48

5—OTHER MATTERS.

	Number
Notified by H.M. Inspector
Reports (of action taken) sent to H.M. Inspector.....	...
	...

SURVEYOR'S ANNUAL REPORT, 1909.

WATER SUPPLY.—A total length of 2,320 yards has been added to the Council's water mains during 1909, namely, 1,457 yards in Chorley, 399 yards in Hough, and 464 yards of main laid to the site of the proposed Cottage Hospital. The total length of mains laid in the Rural District to the end of 1909 is 288,343 yards, or 163 miles, 1,463 yards. Mains laid by private owners prior to 1901 are not included.

There has been an addition of sixty-one houses connected to the water mains of this District during the year, making the total number of houses supplied by these mains, since 1879, 4,405.

The total quantity of water consumed in the Rural District in 1909 was 79,078,000 gallons; 1,472,000 gallons of this were supplied to the Malpas Rural District Council, for Bickley Township. The consumption of water per house per day for the year was 53·6 gallons, the consumption per head of population per day being 10·7.

The new extension of the mains to Chorley Green has been carried out during the past year, and four additional farms and a small holding have been supplied by this means. The total number of farms and houses in Chorley now supplied from the mains is twenty-six. All the farms are supplied by meter. An extension in Dig Lane, Hough, has also been carried out during the year, and a number of houses are now supplied from the mains; the previously existing water supply to these houses was reported by the County Analyst to be unfit for domestic use.

The Stapeley Water Works have continued to give satisfaction during the past year, but the supply from the reservoir had often to be supplemented by means of the other mains laid in the Township.

A scheme has been prepared for supplying Audlem and the surrounding Townships with water from the present main in Cholmondeley, which is connected to the Liverpool main at Egerton Green. Eleven Townships are included in this scheme, namely:—Wrenbury, Woodcote, Sound, Broomhall, Newhall, Dodcott-cum-Wilkesley, Coole Pilate, Audlem, Buerton, Hankelow, and Hatherton. Particulars of the capital cost in each Township, together with the probable income and expenditure, are given in the report which has been printed and circulated. Enquiries are now being made from the property owners in each Township to ascertain if they would be prepared to guarantee the deficiencies in their particular Townships. Lord Combermere has promised to guarantee the deficiency in respect of the Combermere Estate, and it is hoped that other property owners will follow his example.

Plans and estimates have been prepared for supplying the Townships of Brindley, Faddiley, and Burland with water (including a branch main to the new County Council small holding, and the Ash House). These were submitted to the Local Government Board, and an inquiry has recently been held with respect to same.

SEWERAGE.—Little progress has been made in respect to sewerage works in the various Townships during the past twelve months.

The terms upon which the Nantwich Urban District Council will take the sewage from Broad Lane, Stapeley, have not yet been finally agreed to. Negotiations with respect to the sewage from London Road and Crewe Road, Willaston, are still in progress.

Negotiations have been successfully concluded for obtaining a site for the Willaston sewage disposal works, and the revised plans have been prepared and ordered to be sent to the Local Government Board.

The Haslington scheme has not made any further progress in the last twelve months, the question of a site for the sewage disposal works being still under consideration.

PUBLIC LIGHTING.—The public lighting of the Townships of Audlem, Crewe, Willaston, Acton, and Shavington has been duly carried out during the year, and the lamps have had the necessary painting, cleaning, repairs, etc. done to them, when required.

FACTORIES.—There have been no new factories certified during the past twelve months.

LETTERS.—Six hundred and twenty letters have been written during the year.

NEW BUILDINGS.—Plans for ninety-two new buildings were passed by the Council in 1909 as follows :—

New Houses	...	...	...	...	59
New Outbuildings...	...	...	...	...	14
Alterations and Additions	...	...	...	...	12
Schools and Public Buildings	...	...	...	...	6
New Factories	...	...	...	...	1
					—
					92
					—

The total number of plans for new buildings sanctioned for this District since these Urban Powers were first obtained in 1875 is 2,945. The following statement gives the total number of plans sanctioned up to the end of 1909, in the Townships of the Rural District.

Audlem	...	...	...	...	158
Shavington	...	...	...	...	307
Bunbury	...	...	...	...	108
Willaston...	...	...	...	...	374
Haslington	...	...	...	...	418
Church Coppenhall	...	...	...	...	701
Other Townships	...	...	...	...	879
					—
					2,945
					—

All new buildings have been inspected on completion.

March, 1910.

C. E. DAVENPORT,
ENGINEER AND SURVEYOR.

Report of INSPECTOR OF NUISANCES

FOR 1909.

I beg to submit a summary of the work done by the Inspector of Nuisances during the past year.

Inspection of District. The District has been systematically inspected and the results of the inspections journalised. House to house inspections were made in the hamlets and villages of Acton, Baddiley, Basford, Bickerton, Blakenhall, Brindley, Bulkeley, Checkley-cum-Wrinehill, Chorley, Doddington, Edleston, Faddiley, Haughton, Poole, Sound, Warmingham, Wettenhall, and Woodcott respectively. Re-inspections were made in Audlem, Alpraham, Barbridge, Broad Lane, Burland, Calveley, Coppenhall, Haslington, Rope, Stoke, Wardle, Willaston, and Wistaston, all structural alterations and improvements in cottage property, etc, and were duly noted.

Statutory Notices. Five statutory notices were served upon owners of dwelling-houses, requiring them to abate nuisances arising from defects in the drainage systems belonging to their respective properties, and in each case steps were promptly taken to abate the nuisances complained of. Two hundred and six informal notices were served on persons responsible for the abatement of nuisances existing on premises either owned or occupied by them; with twenty-six exceptions the notices were complied with, the remainder still need attention.

Complaints received. Thirty-nine written complaints were received: they were properly investigated and satisfactorily dealt with.

Pollution of Ditches and Water Courses. Seventeen cases of pollution of ditches, and three cases of contamination of watercourses were reported on. The ditches were cleaned out, but in the cases of Broad Lane Crewe Green, Haslington, and Willaston the nuisances will continue to recur until these parts of your district are properly sewered.

Drainage. New drainage systems have been provided for the proper draining of eleven dwelling-houses. New systems have also been provided in connection with five farmsteads situated in various parts of your District. The drainage system at the Vicarage, Worleston, was found on inspection to be fractured, due to the settling of the subsoil. As a result the liquid refuse from the slop closet and water closets, fixed inside the premises, was percolating through the joints of the brickwork into the cellar, which was not only offensive, but a source of danger to the health of the inmates. The drains were taken up and re-laid on concrete where it was considered necessary, proper inspection and disconnecting chambers were constructed so as to afford easy access to the drains for inspection purposes, etc. Two water closets and two waste water (tipper) closets have been built at three separate properties.

Workshops and Bakehouses. The workshops and bakehouses have been frequently inspected. Informal notices were served on three occupants requiring them to limewash the walls of the premises in their occupation.

Homeworkers. Lists giving the names and addresses of homeworkers were duly sent to me by the managers of factories, also by the Clerks to the Nantwich Urban District Council and the Crewe Corporation respectively. The homes were regularly visited and their condition noted. Every precaution was adopted in cases where an infectious disease broke out in a house to prevent the spread of the disease.

Overcrowding. Four cases of overcrowding were reported to the Medical Officer of Health and were promptly dealt with.

Paving of Yards. The paving in kitchen yards belonging to eleven cottages and four farmhouses was found on inspection to be insanitary, due to their uneven construction. The yards have been re-paved with hard blue bricks, and gradients formed to throw all surface water into the yard gullies.

Ashpits and Privies. Ten insanitary privy cesspits have been abolished and good brick buildings erected provided with movable pans in lieu thereof. Twenty-one privy middens have been abolished and movable ashbins provided, which have greatly mitigated the nuisance during the process of scavenging. Moreover the ashbin system does away with the dangers arising from offensive accumulations of refuse near to the houses.

Slaughter-houses. The slaughter-houses in the District have been regularly visited and were found to be kept in a sanitary condition. Four new licences were granted, and seven renewed, three of which were for knackers' purposes. Several carcasses were examined by request and in each case the orders of the Local Government Board published for the guidance of meat Inspectors were duly observed.

Offensive Trades. The building used for tripe dressing in the village of Haslington cannot be regarded as a first-rate place. It was periodically visited and found to be kept as clean as possible.

Infectious Diseases. Every case of infectious disease notified had immediate attention, and the necessary precautions were taken to prevent the spread of infection. In each case full enquiries were made, with the view of ascertaining if possible the cause of the outbreak of the disease. Several lots of bedding, etc., were destroyed by fire; in one case only was compensation given. The day schools at Acton, Shavington (infants), and Warmingham, which were closed owing to outbreaks of disease, were fumigated with Chlorine and Formalin Gas, and Sulphur Candles. The surfaces of all desks, window ledges, walls, etc., were wiped by cloths wrung out of a disinfectant solution, and all out-offices thoroughly disinfected. At the Warmingham school a considerable number of both reading and writing books was destroyed by fire.

Water Analysis. Five samples of water were sent to the public analyst for analysis; four of the samples were certified as being unfit for domestic use, and one sample, which was the second taken from a well at Reaseheath, was certified as a second class water indicating signs of previous sewage contamination and condemned as being unfit for dietetic purposes if a better supply could be procured. The well from which this sample was taken had been previously cleaned out, and although the water mains are within a reasonable distance of the cottages which obtain their domestic supply from the well in question, your Council was of opinion that the analyst's observations did not warrant the closing of the well and therefore no action was taken in the matter.

Construction of Wells. I have on more than one occasion stated in my reports to the Sanitary Committee that the construction of wells, especially shallow wells, is a matter of great importance, and pointed out that the exclusion of surface water and the prevention of contamination from manure spread on land, from decaying vegetation, from cesspools, from leaky drains, from liquid filth, etc., can only be secured by having the wells constructed for a depth of at least eight feet with hard blue brick laid in cement or with concrete with a backing of puddled clay, and the paving of the surface around the well and the construction of a suitable drain to carry all waste water from the neighbourhood of the well. If these precautions were taken when wells are being constructed, provided that the site of the well is discreetly chosen, a fairly good domestic supply in most cases could be obtained. One new well has been constructed, one cleaned out, and three old wells closed.

Scavenging. The collection of house refuse in the villages where the work is carried out by contract has been done in a fairly satisfactory manner. The number of complaints received have not been so numerous as in previous years. The number of ashpits, privies, etc., scavenged is as follows :—

Audlem	...	...	...	184
Coppenhall	...	...	...	73
Haslington	...	...	...	329 (weekly)
"	...	...	...	73 (fortnightly)
Shavington	...	...	...	252
Willaston	...	...	...	601 (weekly)
"	...	...	...	63 (fortnightly)
Wistaston	...	...	...	78 (weekly)
"	...	...	...	18 (fortnightly)

Total ashpits scavenged...1,671

Petroleum Acts. Two licences were granted under the Acts, one for the storing of Carbide of Calcium, and one for the storing of Petrol.

Milk Supply. Recognizing the importance of a careful supervision of the Milk Supply, I have given every attention to this important work. Inspections have been made at regular intervals at all the dairy farms and excepting a few minor faults there was not much to complain of. The care taken by the majority of cowkeepers and dairymen is most praiseworthy. The limewashing and cleansing of the cowsheds and dairies was carried out in accordance with the regulations adopted by your Council. In several instances I found that more had been done in the way of limewashing than is required by the regulations. Many of the cowkeepers now recognize that the secret of clean sheds lies in frequent limewashing. In the course of my inspections I have consistently and repeatedly told cowkeepers that the roofs of their cowsheds should not be neglected during the process of limewashing, and pointed out to them that the most effective way of cleansing corners and crevices is done by using an ordinary garden syringe that would reach the places which could not be effectively cleansed with a common brush. I have recommended the use of a liquid disinfectant plus the limewash as a thorough germicide, its special insecticidal properties making short work of those troublesome insect pests such as flies' eggs, fleas, lice, etc., which lurk in old wood and odd corners. For washing down gangways (between the stalls) and for scrubbing the paving on which the bedding lies, nothing is better than a coarse bass broom, plenty of water, with a half-pint of liquid disinfectant to each bucketful of water. With a daily washing of the floors the result would be not only increased health but greater comfort for the animals themselves.

Manure Middens. In a number of cases it was found necessary to call the attention of cowkeepers to the condition of the manure heaps which were considered to be too near the sheds, and on sanitary grounds they were requested to deposit the manure at a greater distance from the buildings. On re-inspection I found that in most cases my request had been complied with.

Cowsheds and Dairies. Improvements have been made in the drainage, lighting, paving, and ventilation of forty-nine cowsheds on the estates owned by Lord Combermere, Lord Tollemache, The Earl of Crewe, Sir D. L. Broughton, Sir P. Egerton, Captain Walthall, Mr. Henry Tollemache, Mr. E. H. Loyd, Mr. J. Garner, Mr. Aldersey, Mrs. Hewitt, Mrs. Shaw, and others, with the view of making them conform to the regulations in force in your District. Seven new cowsheds and three new dairies have been erected. Improvements have also been made in the drainage, lighting, ventilation, etc., of cowsheds on a number of the small holdings in the District. My experience has proved that it is the backward farmer who believes in the "virtue of darkness." That his belief is erroneous has been proved by the fact that all intelligent cowkeepers are convinced that the proper lighting and ventilating of their cowsheds is decidedly in their best interests. The dairymen and cowkeepers in the District dispose of their milk as follows:—3 send it to Birmingham, 14 to the Creamery, Audlem, 56 to Crewe, 1 to Llandudno, 32 to Liverpool, 57 local, 12 to London, 11 to Manchester, 3 to Maypole Co., 27 to Mid-
dlewich, 1 to Pendleton, 1 to Pipegate Creamery, 1 to Sandbach, 1 to St. Helens, 3 to Stockport, and 13 to Wrenbury Factory.

Canal Boats. A copy of my report to the Local Government Board is attached to this report

Letters. 570 letters and post cards have been written during the year.

SUMMARY OF WORK OF THE SANITARY DEPARTMENT.

1. Public Health Acts.	Number of Informal Written Notices by Inspector.	Number of Formal Notices by order of Authority	Number of Nuisances Abated after Notice.	General Remarks.
Dwelling Houses and Schools.				
Foul Conditions... ..	7	...	7	Unwholesome Houses.
Structural Defects	61	...	41	
Overcrowding	4	...	4	
Cowsheds	15	...	11	Limewashing or Painting.
Bakehouses	3	...	3	
Slaughter Houses	1	...	1	All Private Slaughter-houses.
Ashpits and Privies... ..	31	...	31	
Deposits of Refuse and Manure ...	11	...	11	
Water Closets	4	...	4	Pail Closets or Water
Defective Yard Paving	15	...	15	Closets have been provided
House Drainage—Defective Traps.	25	...	25	in lieu of Insanitary Privies
Drainage Defects	17	5	15	and Cesspits in the following
Water Supply	2	...	2	Townships, viz :—
Pig Styes	5	...	5	Water Closets : Audlem 1, Worleston 1
Animals improperly kept	5	...	5	Church Minshull 2. Pail Closets : Huns-
Offensive Trades ... ..	...	...	...	tersen 4, Wybunbury 2 Total 10.
Other Nuisances ... ..	..	...	...	Only one in the District.
TOTALS	206	5	180	26 Nuisances unabated.

2. Housing of the Working Classes Act, 1890.		
Formal Notices Served... ..	4	
Dwellings dealt with	8	3 New Buildings erected on site of
Dwellings permanently closed ...	3	old premises.
3. Samples of water taken for Analysis	5	
Samples of water condemned as unfit for use	5	
Seizures of unwholesome food ... ..	...
Summonses for exposing or preparing diseased food. ...	...
4. Infectious Bedding destroyed	9	Every house disinfected after each
Schools Disinfected after Infectious Disease	3	case of Infectious Disease,
		Acton, Shavington, and Warmingham

JOHN STOREY,

Inspector of Nuisances, etc.

Inspections under the Canal Boats Acts for the year 1909.

Seventy-six boats have been inspected during the year, and the particulars journalised. Infringements were found on nine of the boats inspected.

Absence of Certificates in two cases were satisfactorily explained. There were three cases of dilapidated Certificates which were duly reported, and in each case new copies were obtained.

In one case, the boat "Mafeking," there was an absence of a proper water-vessel. The explanation of the Captain was that it had fallen off the boat whilst passing through one of the locks and had been broken.

The owner of the boat was communicated with and requested to provide a proper water-vessel. A Certificate was received from the Inspector of Canal Boats for the Drayton Rural District Council, stating that he had inspected the boat and found that the request had been complied with.

Three boats, the "Celtic," "Hope," and the "Burland," required some repairs. The Captain of the "Celtic" stated that he had received orders on returning to Chester to take the boat to the dock to be repaired.

The owners of the boat "Hope," in a letter which I received from them in reply to my complaint, stated that they would have the boat overhauled as soon as they could possibly get her into dock.

In the case of the boat "Burland" I received a letter from the owners in which they said that they had had the boat temporarily repaired, pending negotiations for a new boat. I found on a subsequent inspection that the owners had a new boat named "Burland" plying on the Canal, and on enquiry was informed that the old boat had been scrapped.

A case of Scarlet Fever was notified on board of the boat "Alice"; the boat was properly isolated and inspected by the Medical Officer of Health, who ordered the removal of the patient to the Isolation Hospital and the thorough disinfecting of the boat, which was afterwards allowed to proceed on his Certificate.

Two of the boats inspected were carrying offensive cargoes; their bulkheads, etc. conformed in every particular to the Canal Boats Acts and the regulations made thereunder.

There were fifty-six women, 120 men, and sixty-one children (whose ages ranged from under one year to under twelve years) on the boats inspected. On thirty-two boats there were men, women, and children; on thirty boats there were men only; and on fourteen boats there were both men and women.

Thirty boats were the homes of their crews; forty-six of the crews had homes apart from their boats.

The majority of the boats inspected belonged to the Shropshire Union Railway and Canal Company who paid prompt attention to any complaint made to them, and with as little delay as possible had the matters complained of rectified.

I have always found a disposition on the part of the Company's employees to render me every assistance with the view of making my inspections as thorough as possible.

No legal proceedings have been taken during the year.

(Signed) JOHN STOREY,
Inspector under the Canal Boats Acts.

11th January, 1910.

Nantwich
Road